Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
Amendment of Part 2 of the Commission's Rules for Federal Earth Stations Communicating with Non-Federal Fixed Satellite Service Space Stations;	)	ET Docket No. 13-115
Federal Space Station Use of the 399.9-400.05 MHz Band; and	)	RM-11341
Allocation of Spectrum for Non-Federal Space Launch Operations	)	

COMMENTS FROM THE NEW MEXICO SPACEPORT AUTHORITY

I. BACKGROUND

Spaceport America is the world's first purpose-built commercial spaceport, meaning the Spaceport infrastructure has been designed and constructed from the ground up to serve as a commercial spaceport. Many other spaceports were originally airports that have been re-purposed or are existing portions of a Federal launch range that have been leased out for commercial uses. The New Mexico Spaceport Authority (NMSA) operates Spaceport America. NMSA broke ground in 2009 to build a spaceway, hangar facilities, launch pads, and other infrastructure from scratch. NMSA has been awarded a Launch Site Operator License from the Federal Aviation Administration Office of Commercial Space Transportation.

Spaceport America has served a diverse set of commercial space activities. Armadillo Aerospace has conducted vertical takeoff, vertical landing flights of their STIG A, STIG A-II, and SuperMod vehicles. UP Aerospace has launched suborbital sounding rockets for various customers. Virgin Galactic has brought its WhiteKnightTwo and SpaceShipTwo vehicles to the Spaceport. And most recently, SpaceX has chosen Spaceport America for flight testing of its vertical takeoff, vertical landing rocket vehicle.

In the past commercial launch operators have launched from Federal ranges.[1] More recently, Federal range facilities have been leased to organizations that then market those range facilities on commercial terms.[2] The present and future trend among commercial launch operators is to launch from commercial spaceports that are entirely independent of Federal ranges.[3] However, many of these same commercial operators make continued use of the existing Federal range facilities for certain missions. In the future, commercial launch operators are likely to operate at both Federal and commercial launch sites and the ability to use the same communications system hardware at both Federal and commercial sites will promote the commercial space industry. The question is, can the FCC accommodate that interoperability while mitigating the potential for interference?

II. COMMENTS BY PARAGRAPH

Comments in response to the 420-430 MHz band, paragraphs 76-78:

It is foreseeable that commercial users of Spaceport America will desire to operate their own Flight Safety System equipment to transmit a Flight Termination Signal to their vehicle.[4] These commercial users will need an FCC authorization to operate such equipment.

The New Mexico Spaceport Authority (NMSA) requests that the FCC enable commercial launch operators to obtain an FCC authorization to operate their own Flight Safety System. While Parg. 78 of the NPRM acknowledges that "no one has requested an experimental STA from the Commission for this band for self-destruct signals," NMSA believes that future commercial launch operators will desire to operate their own Flight Safety System.[5]

This may be especially true at Spaceport America where commercial launch operators have greater autonomy over their own operations. Unlike at Federal ranges, commercial launch operators at Spaceport America have the discretion to conduct their launch with relatively little involvement of the Federal U.S. Army

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[1] The Annual Compendium of Commercial Space Transportation: 2012, pg. 145, Federal Aviation Administration (February 2013), available at: http://www.faa.gov/about/office_org/headquarters_offices/ast/media/Annual_Compendium_of_Commercial_Space_Transportation_2012_February_2013.pdf. (Cape Canaveral Air Force Station supports commercial launches from the SLC-37, 40, and 41 facilities.).

[2] The Annual Compendium of Commercial Space Transportation: 2012, pg. 144, Federal Aviation Administration (February 2013) (For example, Space Florida has leased the Federal SLC-36, 46, and 47 at Cape Canaveral and markets those facilities as commercial launch sites.).

[3] The Annual Compendium of Commercial Space Transportation: 2012, pg. 41, 143-144, Federal Aviation Administration (February 2013) (XCOR has an agreement with the proposed Midland Spaceport in Texas. SpaceX is in negotiations for a Brownsville, TX launch site. Blue Origin is proposing a site in West Texas. These commercial spaceports are not related to a Federal range, in contrast to the California Spaceport which is located on Vandenberg Air Force Base or the Cape Canaveral Spaceport which leases facilities from Cape Canaveral Air Force Station.).

[4] The Commercial Space Transportation Regulations of the Federal Aviation Administration require certain commercial launch operators to employ a Flight Safety System per 14 C.F.R. § 417.301. In general these systems transmit a Flight Termination Signal to remotely activate an onboard self-destruct device. Paragraph 76 of the NPRM describes this kind of system.

[5] Parg. 78 NPRM.

White Sands Missile Range (WSMR). Accordingly, the FCC should design its regulations consistent with this greater autonomy and further promote the goals of the 2010 National Space Policy.[6]

Comments in response to the 2200-2290 MHz band, paragraphs 79-82:

The restrictions enumerated in the proposed footnote, under either alternative, specify that commercial access to the 2200-2290 MHz band would be limited to, "pre-launch testing and to use at Federal ranges."[7] The NPRM asks, "we have proposed to limit non-Federal use of this band for space launches to pre-launch testing and for launches conducted at Federal ranges . . . As the commercial space ports(*sic*) are established that are independent of Federal operations would this restriction unduly limit the future growth of the commercial space launch industry?"[8]

Yes. Anchoring the commercial launch frequency band "at Federal ranges" will limit the present trend towards commercial spaceports and towards greater autonomy for commercial launch operations. There are presently eight launch sites licensed by the FAA for commercial space activities.[9] Does the FCC consider any of the five FAA licensed launch sites which are near Federal ranges to be "at" a Federal range? [10] Which launch sites, if any, are considered "at a Federal range" and which sites are not?

Under the proposed footnote, the eight FAA licensed commercial launch sites may not have access to the 2200-2290 MHz band depending on the FCC's interpretation of "at a Federal range." There are also six additional proposed launch sites in various stages of development that will not be located near Federal ranges.[11] These proposed sites are similarly disadvantaged by the proposed rule.

Granting Federal launch ranges an effective monopoly over telemetry services is inconsistent with the mandate to "refrain from conducting United States Government space activities that preclude, discourage, or compete with U.S. commercial space activities, unless required by national security or public safety."[12] Allocating the 2200-2290 MHz band for commercial launch use only at Federal ranges places the U.S. Government in direct competition with commercial launch sites because commercial launch operators may patronize Federal ranges rather than commercial launch sites in order to have access to the band on a protected, secure basis.

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[6] Specifically, see the 2010 National Space Policy Sector Guidelines, Commercial Space Guidelines, which promote the increased utilization of commercial space services, discourage U.S. government space activities that compete with or preclude U.S. Commercial Space Services, promote transferring routine, operational space functions to the commercial space sector, and promote reducing the regulatory burden for commercial space services.
[7] Parg. 79 NPRM (emphasis added.).
[8] Parg. 82 NPRM.
[9] The Annual Compendium of Commercial Space Transportation: 2012, pg. 38, Federal Aviation Administration (February 2013).
[10] The Annual Compendium of Commercial Space Transportation: 2012, pg. 39, Federal Aviation Administration (February 2013).
[11] The Annual Compendium of Commercial Space Transportation: 2012, pg. 41 (Brownsville, TX, Ellington, TX, Midland, TX, West Texas, Front Range, CO, Kalaeloa, HI).
[12] 2010 U.S. National Space Policy.

The explicit rationale for limiting the use of the band to Federal ranges is, "to limit the potential for interference to Federal operations to a few locations."[13]

The FCC can adequately limit the potential for interference by restricting use of the band to commercial space launch operations conducted at FAA licensed launch sites and at Federal ranges. Today there are only eight FAA licensed commercial launch sites in the U.S.[14] The FAA could notify the FCC when the application process for a Launch Site Operator License was initiated for a new prospective site and thereby provide the FCC with sufficient notice that an additional location must be considered for interference.[15] A hopeful licensee is required to engage the FAA in pre-application consultations before filing a formal application which increases the lead time.[16] The New Mexico Spaceport Authority (NMSA) requests that the FCC consider the typical lead time necessary for it to review a license application and compare its experience with that of the FAA in reviewing Launch Site Operator License applications. The FAA's license approval process may be sufficiently long enough to provide the FCC sufficient time to limit the potential for interference posed by the new proposed launch site.

This lead time for new locations, and the small number of total locations, reduces the FCC's burden in evaluating interference issues. This proposed arrangement accomplishes essentially the goal enumerated in paragraph 82, to "limit the potential for interference to Federal operations to a few locations."[17] Anchoring the commercial launch frequency band at Federal ranges would seriously prejudice commercial spaceport operations and should be avoided, even if use of the band at commercial spaceports increases the number of locations for potential interference. Accordingly, NMSA requests that the FCC amend the proposed footnote language to include FAA licensed commercial launch sites, for example, "This footnote would require successful coordination of the assignment and use of the band for space launches with NTIA, would restrict non-Federal use of the band to pre-launch testing and to use at Federal ranges or to use at FAA licensed commercial launch sites…"

Comments in response to the 2360-2395 MHz band, paragraphs 83 and 84:

There is a huge advantage to commercial launch operators in being able to use the same communications system hardware whether they operate from a Federal or commercial launch site. If a commercial launch service provider can use the same vehicle communications system at commercial launch sites and at Federal ranges that will avoid increased costs for development, hardware acquisition, operations, and testing. Interoperability between ranges saves on opportunity costs as well, increases competition among launch providers and among launch sites, and thereby promotes the industry overall. Presently, several commercial launch operators are planning operations from the well-established Federal range at Cape Canaveral

[13] Parg. 82 NPRM.
[14] The Annual Compendium of Commercial Space Transportation: 2012, pg. 38, Federal Aviation Administration (February 2013).
[15] 51 U.S.C. § 50918 Provides that, "the Secretary of Transportation shall consult with the head of another executive agency . . . when appropriate." The FAA also reviews applications for consistency with foreign policy and national security per 14 C.F.R. § 420.17. The suggested notification could perhaps be performed under this existing statutory authority and regulation.
[16] 14 C.F.R. § 413.5.
[17] Parg. 82 NPRM.

Air Force Station while also conducting operations at commercial spaceports.[18] Interoperability promotes the trend towards commercialization by making these dual operations possible.

The New Mexico Spaceport Authority (NMSA) requests that the FCC design its regulations to allow interoperability among commercial launch sites and Federal ranges. A band that can be allocated for commercial use at all launch sites is fundamentally superior to a band that can only be allocated for use at limited locations.

Comments in response to the 5650-5925 MHz band, paragraphs 85-87:

The NPRM expressly recognizes the potential for mixing Federal and commercial equipment within one system or service, for example, a commercially controlled transponder onboard a commercial launch vehicle may transmit a signal to a Federal ground based radar tracking system.[19] NMSA applauds the FCC's foresight in recognizing this potential. Accordingly, NMSA requests that the FCC continue to design future regulations to promote interoperability between Federal and commercial systems.

III. CONCLUSION

The New Mexico Spaceport Authority (NMSA) applauds the FCC's proactivity in seeking a more secure landscape for commercial launch frequencies. NMSA asks the FCC to design their regulations to provide commercial launch operators the greatest extent of autonomy and interoperability between launch sites. The ability to freely operate among launch sites that are best suited for a particular mission will promote the commercial space industry. And the ability to freely decide how much Federal range involvement is appropriate for a particular mission will promote the commercial space industry.

NMSA calls special attention to the 2010 National Space Policy Sector Guidelines, Commercial Space Guidelines, and their mandate to utilize commercial services, to refrain from precluding, discouraging, or competing with U.S. commercial space activities, to pursue opportunities to transfer routine, operational space functions to the commercial space sector, and to minimize the regulatory burden for commercial space activities.

[18] The Annual Compendium of Commercial Space Transportation: 2012, pg. 144, 148, Federal Aviation Administration (February 2013) (SpaceX has established operations at Cape Canaveral and also plans to conduct launches from Spaceport America. Masten Space Systems has established operations at the commercial Mojave Air and Space Port and also has an agreement to conduct operations at Cape Canaveral.).
[19] Parg. 85 NPRM.